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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,682	07/26/2001	Johannes Franciscus Adrianus Reniers	NL000445	7600

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U.S. Philips Corporation
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EXAMINER
VIGUSHIN, JOHN B

ART UNIT PAPER NUMBER
2827

DATE MAILED: 06/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,682

Applicant(s)

RENIERS, JOHANNES
FRANCISCUS ADRIANUS

Examiner

John B. Vigushin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Claims 1-6 and cancellation of non-elected Claims 7 and 8 in Paper No. 10 is acknowledged.

Drawings

2. The Draftsman has objected to the Drawings under 37 CFR § 1.84 and requires that the two views in Fig. 1 be separately labeled. The Examiner reminds the Applicant that the new labels should be incorporated into the Specification, i.e., in the **Brief Description of the Drawings** and in the **Detailed Description of the Invention**.

Specification

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, **as a section heading**. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).
"Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37
CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A
"Sequence Listing" is required on paper if the application discloses a
nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if
the required "Sequence Listing" is not submitted as an electronic
document on compact disc).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that
form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

5. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by
Hanni et al. (US 4,109,298).

A) As to Claim 1, Hanni et al. (US 4,109,298) discloses: at least two printed
circuit boards 1 and 2 (the embodiments of Figs. 1 or 1a) on which printed circuits 4
(board 1; Fig. 1), 6 (board 2; Fig. 1) and 61,62 (another embodiment of board 2; Fig. 1a)
(col.2: 29-34) are provided; each of boards 1 and 2 comprising electrical contact
elements for electrically interconnecting the boards 1 and 2; the electrical contact
elements of board 1 are formed by a number of electroconductive pins 3 manufactured

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so as to be in one piece with board 1 (Figs. 1 and 5a; col.2: 22-27); the electrical contact elements of board 2 are formed by a number of recesses 5 having an electroconductive inner surface formed in board 2 (col.6: 61-67 and col.7: 10-15); pins 3 entering the corresponding recesses 5 and secured therein by soldering 7 (on one or both sides of board 2; Fig. 3a; col.2: 60-col.3: 7).

B) As to Claim 6, Hanni et al. (US 4,109,298) discloses that electroconductive pins 3 each have a portion 32 and 33 wherein portion 32 has a diameter of 0.035 in = **0.889 mm** and portion 33 has a diameter of 0.06 in = **1.524 mm** (col.3: 38-40 and 45-47).

6. Claims 2-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanni et al. (US 4,109,298) in conjunction with Hanni (US 3,934,334).

[Examiner's Note: The present rejections of Claims 2-4, below, are each **multiple reference 35 USC 102(b) rejections** relying upon Hanni et al. (US 4,109,298) in conjunction with Hanni (US 3,934,334) **in accordance with MPEP § 2131.01, part I]**:

A) As to Claim 2, Hanni et al. (US 4,109,298) further discloses that electroconductive pins 3 are coated on **all sides** with an electroconductive material (Figs. 1a and 5d; col.6: 48-55; col.4: 64-col.5: 1) and that the electroconductive material is metal--i.e., copper-- plated (col.4: 54-63) in accordance with incorporated reference US 3,934,334 (see Abstract of US 3,934,334).

B) As to Claim 3, Hanni et al. (US 4,109,298) further discloses that the inner surface of the recesses 5 is coated on all sides with an electroconductive material

(col.7: 10-15), in particular a metal (i.e., copper; see Fig. 5 of US 3,934,334 incorporated by reference in col.4: 54-63 of US 4,109,298).

C) As to Claim 4, the limitation "the electroconductive material is provided **by means of electrolysis**" (bold emphasis by the Examiner) is a **process limitation** in a product claim. Such a process limitation defines the claimed invention over the prior art only to the degree that it defines the product itself. A process limitation cannot serve to patentably distinguish the product over the prior art in the case that the product is the same as, or obvious over, the prior art, i.e., Hanni et al. (US 4,109,298). See Product-by-Process in MPEP § 2113 and 2173.05(p) and *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanni et al. (US 4,109,298).

I. Hanni et al. teaches all the limitations of the base and intervening claims but does not recite a coating thickness or optimal coating thickness range of the electroconductive material 4 and 14 (Fig. 5d) that coats pins 3.

II. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a thickness of the electroconductive coating material 4 and 14 in the range between 25 μm and 40 μm , and in particular approximately 35 μm , since it has been held that, where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Aller*, 105 USPQ 233) and discovering an optimum value of a result effective variable involves only routine skill in the art (*In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


- a) *Babinski et al.* (US 5,907,475) discloses, in Figs. 2-6, daughter boards 58A-C and 60 having fingers 72 (Fig. 6) and 115 (Fig. 5), respectively, electroconductively coated with metallizations 74 (Fig. 6) and 119 (Fig. 5), respectively, and inserted into recesses 75 and 82, respectively (Figs. 3 and 4) of mother boards 62A,B, wherein the recesses 75 and 82 each have an electroconductive inner surface (col.7: 43-47 and 57-64). The daughterboards 58A-C, 60 are soldered to the motherboards 62A,B (col.4: 31-33; col.7: 65-col.8: 2).
- b) *Hanni et al.* (US 4,074,419) discloses a method of fabricating conductors 6 and circuit board 8 (Fig. 3) that is incorporated by reference for an embodiment

of the invention in Hanni et al. (US 4,109,298). Hanni et al. (US 4,109,298) is relied upon for the rejections of Applicant's Claims 1-6, above.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Vigushin whose telephone number is 703-308-1205. The examiner can normally be reached on 8:30AM-5:00PM Mo-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



John B. Vigushin
Examiner
Art Unit 2827

jbv
June 1, 2002